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(12) **United States Patent**
Cooper

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(54) **VESSEL TRANSFER INSERT AND SYSTEM**

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(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

This patent is subject to a terminal disclaimer.

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See application file for complete search history.

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(57) **ABSTRACT**

A system for removing molten metal from a vessel is disclosed. The system includes a pump and a refractory casing that houses the pump. As the pump operates it moves molten metal upward through an uptake section of the casing until it reaches an outlet wherein it exits the vessel. The outlet may be attached to a launder. Another system uses a wall to divide a cavity of the chamber into two portions. The wall has an opening and a pump pumps molten metal from a first portion into a second portion until the level in the second portion reaches an outlet and exits the vessel.

11 Claims, 24 Drawing Sheets